

ABSTRACT OF THE DISCLOSURE

A lead-free piezoelectric ceramic composition wherein a suitable amount of Cu is contained in a perovskite compound of a non-stoichiometric composition represented by a formula $(K_xA_{1-x})_y(Nb_{1-z}B_z)O_3$, wherein "A" represents at least one of Na and Bi, while "B" represents at least one of Ta and Ti, and wherein $0 < x \leq 1$, $0 < y < 1$, and $0 \leq z \leq 1$, so that by-products such as $K_aCu_bNb_cO_d$ and $K_aCu_bTa_cO_d$ are produced as a result of reaction of $(Nb_{1-z}B_z)$ with Cu in the process of calcination of a starting material, and the by-products restrict melting and abnormal grain growth of $(K_xNa_{1-x})(Nb_{1-z}Ta_z)O_3$ during firing of a calcined body, thereby improving sinterability of the fired body, while restricting volatilization of alkali components and melting of $KNbO_3$, thereby increasing the density and improving the piezoelectric properties of the fired body. The ceramic composition is prepared by firing a starting composition including the perovskite composition as a primary component, and a secondary component in the form of at least one of compounds $K_aCu_bNb_cO_d$, $K_eCu_fTa_gO_h$ and $K_iCu_jTi_kO_l$.